

ABSTRACT

A coated metal surface on a solid support, wherein the coating consists of a self-assembled monolayer (SAM) of oligo(ethylene glycol)-terminated amide group-containing alkyl thiols firmly attached to the metal surface via the thiol-end and low molecular weight antigens bound via an amide-group to the SAM-forming OEG molecule, wherein the alkyl portion has 1 -20 methylene groups, wherein the oligo(ethylene glycol) portion has 1-15 ethylene oxy units, and wherein the antigens, such as explosives and narcotics, are optionally reversibly bound to antibodies specific for the antigens, is disclosed. The coated metal surface on a solid support may be used in a method of detecting analyte antigens as part of an analysis device, such as a Piezoelectric Crystal Microbalance device or a Surface Plasmon Resonance biosensor, for detection in an aqueous solution of an analyte antigen with higher affinity to an antibody than the antigen of the coating by monitoring the displacement of the antibody from the coating.